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ABSTRACT

The training package evaluated in this report was developed to train school administrators and graduate students in educational administration in school program planning skills. The package consists of a coordinator handbook and units on setting goals, analyzing problems and deriving objectives. Each unit is composed of four-to-six modules that provide training on a limited number of instructional objectives. A typical module contains reading material, individual or small-group activities in which the trainees practice the skills, and feedback for the practice activities. Evaluation information was collected in three areas: (1) attitudes toward the units and attainment of their instructional objectives by persons who are trained with the units, (2) use of the units in both schools and universities, and (3) evaluation of the units by knowledgeable reviewers. (Author/MLF)

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FINAL REPORT

EXTERNAL EVALUATION OF DETERMINING INSTRUCTIONAL PURPOSES TRAINING UNITS

Submitted to

FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

by

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*The exhibits were submitted with this report as a separate bound document.

I. INTRODUCTION

The Determining Instructional Purposes training package was developed by the Far West Laboratory for Educational Research and Development (FWL) for the purpose of training school administrators and graduate students in educational administration in skills related to planning of effective school programs. A contract for an external evaluation of the training package, to be conducted between May, 1974, and December, 1974, was awarded by FWL to Instructional Technology Consultants (ITC) of Scottsdale, Arizona. This document was prepared by ITC as the final report to FWL on the external evaluation of the training package.

Description of the Training Package

The Determining Instructional Purposes training package consists of a Coordinator's Handbook and three training units: Unit 1--Setting Goals, Unit 2--Analyzing Problems, and Unit 3--Deriving Objectives. Each unit is comprised of four-to-six modules which provide training on a limited number of instructional objectives. The module names and the objectives for each module are contained in Exhibit A of the exhibits submitted as a separate document accompanying this report. A typical module contains reading material related to the skills taught in the module, individual or small group activities in which the trainees practice the skills, and feedback for the practice activities. In many of the practice activities, the trainees are organized into planning teams in order to apply the skills covered in the module to problems and proccesses in a hypothetical school district.

The units were designed so that either one unit only or any combination of the three units could be used with a group of trainees. Thus, if the administration in a school district wished to concentrate their current planning efforts on only one of the three general processes (setting goals, analyzing problems, or deriving objectives) covered by the units, they could use only the unit dealing with their particular area of concern. The units are intended to be self-contained in the sense that step-by-step progress through the materials and activities comprising a unit should result in attainment of the desired outcomes by participants. A unit may be administered either in a concentrated short-term workshop or in individual sessions scheduled over a period of several days or weeks. FWL's estimate of the training time required for the units is 10-15 hours each for Units 1 and 3 and 12-18 hours for Unit 2.

The training materials stipulate that workshops or other types of training courses conducted with the materials should be directed by a coordinator. According to the program developers, the coordinator should have worked through the relevant unit(s) on his own or as a member of a training group, but no other prior knowledge of the content area is required. It is not necessary for the coordinator to provide new substantive information during a training course. Instead, the coordinator's role involves organizing, guiding, and monitoring activities in which participants use the materials and procedures contained in the units. Detailed procedures and other relevant information for coordinating a training course are provided in the Coordinator's Handbook which is a part of the training package.

The Coordinator's Handbook and all materials in the three units are entirely in print form. The units range in length from 155 pages to

259 pages. They are available from EWL at a cost of $8.95 per single unit or $24.95 for a set of the three units. The Coordinator's Handbook, which contains the directions for coordinating all three units, is priced at $4.50 per copy.

Evaluation Procedures

The evaluation procedures employed by ITC were designed primarily to yield information that would provide a comprehensive and accurate summative evaluation of the training units and that would be helpful in making decisions about their dissemination and use. Information was collected in three areas: (1) attitudes toward the units and attainment of their instructional objectives by persons who are trained with the units according to the procedures described in the Coordinator's Handbook, (2) use of the units in both schools and universities, and (3) evaluation of the units by reviewers who possess recognized expertise in the content areas covered by the training materials.

Collection of information in the three areas listed above was accomplished through a variety of evaluation activities. To collect data on attainment of the instructional objectives of the units by trainees and on trainee attitudes toward the units, a concentrated four-day workshop was conducted in which the units were used to train a group composed of school administrators and university faculty members. Information on use of the units was collected through mailing of a brief questionnaire to all workshop participants and all purchasers of the units, telephone interviews with persons who had used the units, visits to two school districts in which the units had been used, and obtaining of reports on the use of the units at three additional sites. Comprehensive reviews of the units

were obtained from two university faculty members who have done considerable substantive work in the content areas covered by the units, and a third review was obtained from a district-level school administrator who was very familiar with the units and who had served as a coordinator in the workshop conducted as part of the external evaluation.

Presented in the following three sections of this report are descriptions of the workshop based on the training units, the use of the units by purchasers and workshop participants, and the reviews of the units.

2. THE DETERMINING INSTRUCTIONAL PURPOSES WORKSHOP

A four-day workshop in which the units were used to train a group of school administrators was held from August 12 through August 15, 1974, at the Airport Marina Hotel in Burlingame, California. Arrangements were made by ITC to hold the workshop under the sponsorship of the Association of California School Administrators (ACSA), the major professional organization of school administrators in the state of California. The primary purposes of the workshop were to obtain information related to (1) the effects of the training on participant attainment of the instructional objectives of the units and (2) the attitudes of participants toward the units.

To publicize the workshop, approximately 2350 copies of a pamphlet describing the workshop and containing an application form for it were mailed to selected agencies and individuals. Included in the mailing were all school districts in the United States with pupil enrollments of 10,000 or higher, all school districts in California, the educational administration departments in all universities in the United States with enrollments of 10,000 or higher, the major state education agency in all 50 states, and the individual participants in ACSA's Project Leadership. A letter of acceptance was sent to each person who submitted an application form for the workshop.

Workshop Participants and Staff

A total of 25 participants attended the workshop. Twenty-two of the participants were from school districts in California. The remaining

three participants were faculty members from universities in Michigan and Utah. A list of the participants and staff is contained in Exhibit B in the exhibits submitted with this report.

Two district-level school administrators--Mr. James Freda, Director of Evaluation in Paramount (California) Unified School District; and Dr. James Zaharis, Assistant Superintendent of Schools in Mesa, Arizona--were employed by ITC to serve as coordinators during the workshop. All instructional activities during the workshop were directed by the coordinators. Prior to the workshop, each coordinator worked through the Coordinator's Handbook and the unit(s) for which he was responsible during the workshop.

While the coordinators were the key staff for the workshop, two other staff members played lesser roles. Dr. Edward Beaubier, Assistant Executive Director of ACSA, and Dr. Howard Sullivan of ITC welcomed the participants at the opening session of the workshop. Dr. Sullivan also administered evaluation instruments to participants on several occasions during the workshop.

Organization and Schedule

The workshop was organized according to the following schedule:

Monday to Wednesday Morning:	Setting Goals (Unit 1) Dr. Zaharis, Coordinator
	Analyzing Problems (Unit 2) Mr. Freda, Coordinator
Wednesday Morning through Thursday Afternoon:	Analyzing Problems (Unit 2) Mr. Freda, Coordinator
	Deriving Objectives (Unit 3) Dr. Zaharis, Coordinator

Offering the units on the schedule listed above enabled each participant to complete any two units of his choice from among the three units comprising the Determining Instructional Purposes training package. The schedule of units for the workshop was explained to participants during the opening session on Monday morning. Analyzing Problems (Unit 2) was offered twice because it was anticipated that the largest number of participants would select it and that reaction toward it would be most favorable. The number of participants selecting each unit was as follows:

Setting Goals (M-W)	10	Analyzing Problems (W-Th)	4
Analyzing Problems (M-W)	15	Deriving Objectives (W-Th)	21

Because the workshop was designed as a means of evaluating the units, it was conducted so that participants worked through the instructional materials and activities as described in the units and in the Coordinator's Handbook. The coordinators were directed to eschew the type of choosing among modules and/or activities that might occur in many instructional settings and to complete the units in a manner that would permit evaluation of their effects when they are used as prescribed by the developer.

Assessment Instruments and Procedures

Two types of assessment instruments were developed for the purpose of collecting evaluation data from workshop participants. Unit tests keyed to the instructional objectives of each unit served as measures of participant attainment of the unit objectives. A unit rating form was designed as an indicator of participant attitudes toward each unit.

The unit tests were intentionally constructed to be short tests in order to minimize the amount of time that it would be necessary to

devote to testing during the workshop. Two test forms containing an equal number of items on each form were developed for each unit. All items were multiple-choice items with either four or five response choices per item. There were a total of six items per form on the two forms for the Setting Goals and Deriving Objectives units. The two forms for Analyzing Problems, which is the longest of the three units and has the most instructional objectives, contained 11 items each.

All items for the unit tests were initially written and assigned to test forms by Educational Evaluation Associates of Los Angeles under an agreement with ITC. Many of the items were subsequently revised by ITC on the basis of reviews by FWL and ITC of the initial set of items. A description of the procedures involved in developing and keying the test items, assigning items to forms of the test, and trying out the items prior to the workshop is contained in Appendix A. Also presented in Appendix A as an example of a unit test is Form A of the unit test for Setting Goals. Copies of both test forms for each of the three units, with each item referenced to the module and objective for which it was written, are contained in Exhibit C.

Participant attitudes toward each unit were assessed with a Unit Rating Form developed by ITC. This form contained 20 statements--10 positive and 10 negative--about the units. Each participant in a unit indicated his degree of agreement with each statement on a five-point Likert-type scale. The same 20-item form was used for rating each of the three units. Participants were also asked to make suggestions for improvement in the unit on this form and to list any additional comments that they wished to make about the unit.

All participants in a particular unit were pretested on the unit immediately prior to beginning work on it. Forms A and B of the unit test were each assigned at random as the pretest to half of the participants in the unit. Following completion of the entire unit, the Unit Rating Form was administered to all participants. Participants completed this form and then took the unit posttest. Participants who had taken Form A of the unit test as the pretest took Form B as the posttest, and those who were pretested with Form B took Form A as the posttest.

The 10 participants in Setting Goals and the 19 participants in Analyzing Problems were present for all training sessions with these units and completed both the pretest and posttest. Nineteen of the 21 participants in Deriving Objectives were present for all activities related to this unit, including both testing sessions. The other two participants in the unit were present on the final day of the workshop but were excused from the posttest because they had been absent from the workshop on school-related business during some of the unit activities.

Results

Mean scores on the pretest and posttest for each unit are shown in Table 1 on Page 10. As shown in the table, for the Setting Goals unit the pretest mean score was 1.9 items correct (32%) and the posttest mean was 4.5 items correct (75%). Mean scores for the Analyzing Problems unit were 4.5 (41%) on the pretest and 6.7 (61%) on the posttest. For Deriving Objectives, the pretest and posttest means were 2.2 (37%) and 2.8 (48%) respectively.

Participant responses to the 20 statements on the Unit Rating Form are summarized for each unit in Table 2 on Page 11. (A copy of the Unit

Table 1
PRETEST AND POSTTEST MEAN SCORES BY UNIT

Unit	N	No. of Items	Pretest Mean	Posttest Mean
1. Setting Goals	10	6	1.9 (32%)	4.5 (75%)
2. Analyzing Problems	19	11	4.5 (41%)	6.7 (61%)
3. Deriving Objectives	19	6	2.2 (37%)	2.9 (48%)

Table 2
SUMMARY OF UNIT RATINGS

Ratings by Unit on Positive Statements

Item Number	Setting Goals 1	2	3	4	5	Analyzing Problems 1	2	3	4	5	Deriving Objectives 1	2	3	4	5
2.	*3	6	0	1	0	6	9	4	0	0	6	14	0	0	0
4.	3	7	0	0	0	7	11	0	0	1	9	11	0	0	0
5.	1	8	1	0	0	3	12	3	1	0	4	14	2	0	0
6.	2	5	3	0	0	2	6	5	5	1	2	13	1	4	0
8.	0	8	1	0	0	2	6	7	4	0	2	12	3	2	1
10.	0	7	1	1	1	2	9	4	4	0	5	8	4	2	1
13.	1	6	2	1	0	3	7	4	4	1	5	8	3	3	1
15.	2	7	1	0	0	3	11	3	2	0	5	14	0	0	0
16.	0	3	4	3	0	2	9	3	2	3	2	11	3	3	0
18.	1	4	3	2	0	4	9	3	3	0	1	11	3	3	1
Total for Each Rating	13	61	16	9	1	34	89	36	25	6	41	116	19	17	4
% Choosing Each Rating	13	61	16	9	1	18	47	19	13	3	21	59	10	9	2

Ratings by Unit on Negative Statements

Item Number	Setting Goals 1	2	3	4	5	Analyzing Problems 1	2	3	4	5	Deriving Objectives 1	2	3	4	5
1.	0	3	2	5	0	2	2	6	7	2	0	5	4	8	3
3.	0	1	3	6	0	2	2	1	11	3	0	2	3	13	2
7.	1	1	3	5	0	8	6	2	0	3	3	3	4	6	4
9.	0	2	1	7	0	0	2	4	10	3	1	4	4	10	1
11.	0	1	2	5	2	2	2	1	10	4	0	2	5	8	5
12.	0	0	2	6	2	1	4	7	4	3	0	3	1	12	4
14.	0	7	1	1	1	3	6	0	9	1	2	4	4	8	1
17.	0	5	0	5	0	2	7	1	6	3	1	9	4	4	1
19.	0	1	4	5	0	0	2	6	7	3	0	2	7	5	4
20.	1	4	3	2	0	4	9	3	3	0	1	5	6	4	3
Total for Each Rating	2	25	21	47	5	24	42	31	67	25	8	39	42	78	28
% Choosing Each Rating	2	25	21	47	5	13	22	16	35	13	4	20	22	40	14

*The entries in the row for each item show the number of persons who chose each rating from 1 (strong agreement with statement) to 5 (strong disagreement). On item 2, for example, three participants in the Setting Goals unit marked Choice 1, six marked Choice 2, etc. Complete Unit Rating Forms containing all 20 statements are included in Appendix B.

Rating Form for each unit, containing the 20 statements on the form and a summary of the responses to each statement, are presented in Appendix B on Pages 55-60. Responses to the 10 positive statements about the units are reported separately in Table 2 from responses to the 10 negative statements. On each of the 10 positive statements, a rating of 1 is the most favorable rating (strong agreement with the positive statement) and a rating of 5 (strong disagreement with the statement) is the least favorable rating. On the 10 negative statements, a rating of 5 is most favorable and a rating of 1 is least favorable.

The overall reaction to the units can be seen by examining the percentage of participants who chose each rating, as shown in Table 2 on the bottom line for both the positive statements and the negative statements. For the 10 positive statements, the most frequently chosen rating for each of the 3 units was Choice 2, indicating agreement with the positive statements about the unit. For the 10 negative statements, the most frequently chosen rating for each of the 3 units was Choice 4, indicating disagreement with the negative statements about the unit. The data on percentage of participants who chose each rating also reveal that the total number of favorable ratings (Choices 1 and 2 on the positive statements and Choices 4 and 5 on the negative statements) for each unit far exceeded the total number of unfavorable ratings for the unit.

The individual items which were considered to be particularly good indicators of a participant's overall reaction to a unit were Items 11, 12 and 13. These three items deal with whether the participant plans to use the unit in his school or district, his rating of the unit compared to other administrative training he has received, and whether he would

advise others to attend a workshop based on the unit. The data in Table 2 reveal favorable ratings on these three items for all three units, except for an overall rating in the neutral range for Analyzing Problems as compared to other administrative training (Item 12).

Examination of the ratings in Table 2 on an item-by-item basis also reveals the characteristics of the units about which participants held the most favorable attitudes and the characteristics toward which their attitudes were least favorable. Ratings across all three units were consistently high on the potential usefulness of the unit for training school administrators (Item 2), the importance of the skills taught in the unit (Item 4), the usefulness of the information and practice provided in the instructional activities (Item 5), and the appropriateness of the unit for use in a graduate course in educational administration (Item 15). Ratings across the three units were lowest on Items 17 and 20, indicating that the participants need more training in order to serve as a coordinator for the unit (Item 17) and that the units require too much time to be used in a school or district during the school year (Item 20). Participants in the Setting Goals unit indicated that their unit would be difficult to use for the purpose of training others (Item 14), and participants in Analyzing Problems indicated agreement with the statement that the skills taught in their unit could be taught in far less time than the unit presently takes (Item 7).

The Unit Rating Form also contained items asking the participants to suggest potential improvements in the unit and to make any additional comments that they wished to make. Responses to these items are listed for each unit in Exhibit D. The most frequent suggestion was to reduce the length of the units and/or the amount of reading required. This

suggestion was made very frequently for and Analyzing Problems unit and several times for Deriving Objectives.

Summary and Discussion

The Determining Instructional Purposes workshop was conducted as part of the external evaluation of the three training units. The principal sources of evaluation data collected during the workshop were (1) the pretest and posttest scores of participants on unit tests covering the objectives of each of the training units and (2) participant ratings of each unit. Data related to post-workshop use of the units by each participant were collected approximately six weeks after the workshop and are described in a later section of this report.

The degree of pretest-to-posttest improvement registered by participants on the unit tests varied considerably across the three units. Pretest mean scores, which ranged from 32 percent on the Setting Goals unit to 41 percent on Analyzing Objectives, indicate that participants could not perform well prior to instruction on the skills taught in the units. Following instruction, the participants performed moderately well (75 percent) on the posttest for Setting Goals and rather poorly (60 percent and 48 percent, respectively) on the posttests for Analyzing Problems and Deriving Objectives. Posttest performance on the units could be considered to be reasonably satisfactory only on Unit 1, Setting Goals. Participants made rather modest pretest-to-posttest gains (11 percent and 20 percent) on the other two units, but their posttest scores on these units indicate that, following instruction, they still were unable to perform well on the specific skills taught in the units.

Participant ratings of the units on the Unit Rating Form reflect favorable attitudes toward each of the three units. Positive ratings outnumbered negative ratings by a ratio of more than three to one on Units 1 and 3 and more than two to one on Unit 2. By far the most commonly selected rating was a 2 for positive statements about the units and a 4 for negative statements. In general, the ratings indicate that participant attitudes toward the units were consistently favorable, even though they typically were not in the "strongly favorable" category represented by a rating of 1 on positive statements and a rating of 5 on negative statements.

The responses to individual items on the rating form revealed that participants felt that the skills taught in the units were important for administrators to learn, that they learned a lot from the units, and that they would subsequently use the units and/or workshop training in their school or district. Ratings were also generally favorable on the other statements included in the 20-item form. The only ratings which were in the neutral-to-negative range across the three units related to the amount of time required by a unit for use in a school or district during the school year and to the need for additional training before a participant could serve as a coordinator for the unit. It seems probable that the concern about the need for additional training would be partially alleviated by use of the Coordinator's Handbook, which was not available to participants until after they had completed the units and the rating form.

Contrary to pre-workshop expectations, the ratings on Unit 2, although favorable, were slightly less positive overall than the ratings

on Units 1 and 3. One reason for the lower ratings on Unit 2 appears to be its greater length. Concern over the amount of time required by the units was reflected in the ratings of all three units, but it was particularly strong in the case of Unit 2. The greatest number of negative written comments on the Unit Rating Form also related to the length of Unit 2.

Even though the participants reacted favorably toward the units, it seems likely that trainees' attitudes would be more favorable under conditions that are more typical than those that prevailed during the workshop. In a typical situation the coordinator would be free to select the activities and materials that he feels are most useful, rather than having to use the intact units as the coordinators were instructed to do during the workshop. Under such conditions, the characteristic of the units that drew the most unfavorable reactions from the participants--their length or wordiness--should be of much less consequence.

As a result of the experience gained in monitoring the workshop and evaluating the units, it appears to the evaluator that the set of instructional objectives for each unit is not generally useful either as a basis for evaluating the unit or for developing its instructional content. For evaluation purposes, it seems more appropriate to establish the desired outcome(s) for each unit at the level of one or more goals indicating the broader skill a person would display and/or the product he would develop as a result of completing the unit. For example, the goal for Unit 1, Setting Goals, might be as follows:

> Derive one or more goal statements for a school or district and a set of prioritized indicators for each statement.

The effectiveness of the unit would then be evaluated at its conclusion primarily on the basis of whether the user could develop (or had developed), according to the relevant criteria, the product(s) specified in the unit goal.

There are two major reasons for suggesting the use of one or more goals per unit as the primary basis for evaluation of performance on each unit, rather than using the comprehensive sets of unit objectives which served as the basis for evaluating performance during the workshop. First, a single goal or a small number of goals for each unit appear to adequately cover the really important outcomes of the unit and to be the best indicators of the outcomes that are desired for each unit by users. Second, the nature of the materials and their intended use is such that users should be able to work with the actual materials throughout the process of developing the unit related product either in a training session or while working with a school or district team. However, successful performance on many of the instructional objectives requires recall of rules, definitions or criteria which are included in the units. There does not seem to be a compelling reason to require users to commit such material to memory. Instead, it seems much more appropriate even during training to permit them to use the information in the units as resource material and to evaluate them primarily on the basis of the product they produce.

In general, the two major sources of data--participant performance on the unit tests and participant ratings of the units--collected during the workshop yielded rather divergent evaluation information about the units. The ratings of the units revealed that participants held favorable attitudes toward all three units. However, participants did not

perform well on two of the three unit posttests covering the instructional objectives of the units. The evaluator's experience with the workshop and units led him to conclude that assessment of performance on the comprehensive set of objectives for each unit is not a particularly useful basis for evaluating the effects of the units. In the evaluator's opinion, the data collected during the workshop yield an overall evaluation of the units that is generally, but not extremely, positive.

3. USE OF THE UNITS

A series of activities was undertaken from September through November, 1974, by the external evaluator to obtain information related to the use of the units by the workshop participants and by persons who had purchased the units from FWL. Initially, a brief questionnaire was mailed to all purchasers of the units other than librarians who were identified by name on the list of purchasers maintained by FWL. A similar, but not identical, questionnaire was mailed to all workshop participants. Subsequently, all persons who returned a completed questionnaire and indicated on it that they had used one or more units to instruct or train others were contacted by telephone regarding their use of the units. Based on the telephone interviews, several sites were identified where one or more of the units had been used rather extensively. Visits were made to two such sites at which the users had been workshop participants, and written reports were obtained from individuals who played key roles in the use of the units at three other such sites.

Questionnaire Procedures and Responses

To obtain initial information on use of the units, questionnaires were constructed that were intentionally very brief, easy to complete, and easy to return. The major purposes in using the questionnaire were to identify persons who had used the units and to obtain an indication of their willingness to talk briefly by telephone about their use of the units. The questionnaire items for both workshop participants and purchasers were printed on one side of a standard-sized postcard, which was stamped and addressed on the reverse side for return mail to ITC.

A brief cover letter and the purchaser postcard-questionnaires were mailed to 172 purchasers in mid-September. The questionnaire cards for workshop participants and an accompanying cover letter were mailed to all 25 participants in late September. Completed questionnaires were received from 61 of the 172 purchasers (35%) and from all 25 of the workshop participants. No follow-up mailing was conducted to purchasers who did not return the questionnaire card from the initial mailing.

The questionnaire items on the cards for both workshop participants and purchasers and a tabulation of responses to each item are shown in Table 3 on Page 21. It can be seen from Item 1 on the participant questionnaire that 12 of the 25 participants (48%) indicated that they had used one or more of the units with others in the period between the August workshop and the time that they completed the questionnaire. These 12 participants actually represent seven different instances in which the units were used, since two instances involved use of the units by different teams of three participants each and a third case involved use by a team of two participants. Seventeen participants (68%) reported on Item 3 that they planned to use the units at some future time. Examination of the responses of each participant to both Item 1 and Item 3 revealed that 20 of the 25 participants (80%) reported that they either had used one or more units to date or planned to do so in the future. Twenty participants (80%) also reported on Item 2 that the content of the units had been useful to them in some way other than using them directly with others.

Item 2 on the participant questionnaire reveals that 10 of the 61 purchasers (16%) who returned the questionnaire card indicated that they had used the units to instruct or train others. Thirty-six purchasers

Table 3
QUESTIONNAIRE RESPONSES OF WORKSHOP PARTICIPANTS AND PURCHASERS

*RESPONSES TO PARTICIPANT QUESTIONNAIRE

1. Since the August workshop, have you used one or more of the Determining Instructional Purposes units with others?

12 yes 13 no

2. Has the content of the units been useful to you in any other way?

20 yes 3 no 2 *(no response)*

3. Do you plan to use one or more of the units in your school or district at some future time?

17 yes 6 no 2 *"uncertain"*

4. We would like to telephone several of the workshop participants and to talk briefly with them about the units. Would you be willing to talk with us by telephone for a very few minutes?

23 yes 2 no 1 *(no response)*

*All 25 workshop participants returned completed questionnaires. The number beside each response choice indicates the number of respondents making each choice.

**RESPONSES TO PURCHASER QUESTIONNAIRE

1. Have you reviewed one or more of the Determining Instructional Purposes units?

51 yes 8 no 2 *(no response)*

2. Have you or a colleague of yours used one or more of the units to instruct or train others?

10 yes 48 no 3 *(no response)*

If yes, please describe the context in which you used the unit(s).
If no, please state why you have not used them.

(Written responses to this item are described in the text of the report.)

3. Do you plan to use the units at some future time?

36 yes 14 no 8 *"uncertain"* 3 *(no response)*

4. (Answer only if you have used one or more units.)
If you have used one or more units, we would like to talk with you briefly about them. Would you be willing to talk with us by phone for a very few minutes?

9 yes 0 no 1 *"not familiar enough with them"*

**Sixty-one of 172 purchasers (35%) to whom questionnaires were mailed completed and returned them.

(59%) reported in Item 3 that they planned to use the units at some future time, and eight others (13%) wrote brief comments stating that they were uncertain with regard to future use of the units. Fifty-one of the 61 purchasers (84%) indicated that they had reviewed one or more of the units.

Of the 48 persons who reported that they had not yet used the units, 30 did not respond to the part of Item 2 in which they were asked to state why they had not done so. Four of the 48 respondents (8%) who had not used the units stated that the reason was either weaknesses in the materials or that they were too time-consuming. No other reasons that were cited for not using the units were negative in nature.

In the follow-up telephone interviews, each of the purchasers who had used the units was asked to describe the context in which the units were used. Since more detailed descriptions of the context were obtained during the telephone conversations than on Item 2 of the questionnaire, this information is reported below in the section describing the telephone interviews.

In all, a total of 22 individuals--12 workshop participants and 10 purchasers--reported that they had used the units. Thirteen of the users were school administrators in a local education agency, seven were college or university faculty members, and two were staff members of state education agencies. Nine of the 12 users from the workshop were from California, two from Utah, and one from Michigan. Of the 10 purchasers who had used the units, two were from Florida, two were from Rhode Island, and one each was from California, Hawaii, Idaho, Kansas, New York and Texas.

Telephone Interviews

Data related to use of the units were obtained through telephone interviews with selected individuals who had completed and returned the questionnaires. The interviews with persons who reported that they had used one or more units provided information on nearly all of the situations indicated on the questionnaires in which the units had been used. Interviews were also held with a limited number of persons who reported that they had reviewed the units but had not used them.

Interviews with Users Telephone interviews were held both with workshop participants and with purchasers who reported on the questionnaires that they had used one or more of the units. A telephone interview was held with one workshop participant at each of the seven sites at which the units had been used following the workshop and with each of the nine purchasers who had used the units and who had indicated on the questionnaire that they would be willing to discuss the units by telephone. The tenth purchaser who had used the units wrote on the questionnaire that she did not feel that she had used them enough to give intelligent input.

Each user was asked a standard set of six questions during the telephone interview. The essence of the user's response to each question was transcribed by the interviewer. A summary of responses to the telephone interview questions is presented in Table 4 on Page 24. A more detailed listing of the responses by each user is contained in Appendix C beginning on Page 61.

It can be seen from Table 4 that, of the 16 users interviewed by telephone, 11 had used the Setting Goals unit, 10 had used Analyzing

Table 4
SUMMARY OF RESPONSES TO TELEPHONE INTERVIEW QUESTIONS

1. Which units did you use?

*11 Setting Goals | 10 Analyzing Problems | 9 Deriving Objectives

2. In what context did you use them?

12 School district workshop, in-service training, or meetings | 4 Graduate course in education

3. With how many and what type of people did you use them?

(Approx) 542 School personnel: administrators, teachers, high school students, community representatives | 100 Graduate students

4. In what way did you use the units?

2 Intact | 3 Nearly intact or with minor modifications | 8 Selected materials and activities | 3 No Materials: concepts and ideas only

5. How would you evaluate the units based on the participants' reactions on yours?

12 Favorable | 1 Mixed | 2 Use was too non-structured to tell | 1 Too early to tell

6. Are the participants using the materials or training in any follow-up activities?

6 Have written or will write district and/or course goals and goal indicators | 2 Identifying and prioritizing problems | 1 Yes (but specific activities not described) | 7 No

*For all items except Item 3, the numbers beside each response category show the number of interviewees whose response to the item fell into that category. The six questions were open-ended, and the response categories were constructed by the evaluator after the interviews to summarize the interviewees' responses. The total number of responses varies by item because individual responses to an item could fall into more than one category if the interviewee used more than one unit.

Problems, and nine had used Deriving Objectives. Twelve of the 16 users had used the units with school-district personnel, and the other four had used them in graduate courses in education. One or more units had been used with approximately 542 school personnel, including community representatives and high school students, and with 100 graduate students. In most instances, selected materials and activities or an otherwise modified form of a unit was used instead of the entire set of unit materials and activities. Twelve of the 16 users (75%) reported that reactions to the unit(s) were favorable, and none of the users reported that reactions were primarily negative. Follow-up activities--mainly the writing of goals and goal indicators--have been or are being conducted at nine of the 16 sites where the units were used. It is not indicated in the table, but the evaluator inferred from information obtained in the telephone interviews and from FWL's list of purchasers that multiple copies of the units were purchased by only one of the users interviewed by telephone and that the other interviewees who used the units reproduced their materials from the single copy of the units which they purchased.

Interviews with non-users Telephone interviews were held with a total of five workshop participants and purchasers who had reported on the questionnaires that they had not used the units and did not intend to use them. Each purchaser among the non-users who were contacted had indicated in response to Item 1 on the purchaser questionnaire that he had reviewed one or more of the units. The purpose of the telephone interviews with non-users was to attempt to determine the major reason(s) why individuals who were familiar with the units did not plan to use them.

The five non-users were asked a set of four questions each in the telephone interview. The questions are listed below.

1. Did you order the units (or attend the workshop) with a particular use in mind?
2. If so, what was it?
3. If you had a particular use in mind, were the units appropriate for it?
4. Why didn't you use them?

The essence of the response to each item was transcribed by the interviewer during the telephone interview.

Of the five non-users who were interviewed, three reported that they had ordered the units in order to include them in collections of resource materials for planned or ongoing professional activities for which the interviewee was responsible. A fourth non-user had ordered the units to review them for possible use in a planned summer workshop. He considered the units to be appropriate for use in the planned workshop, but he decided not to hold the workshop because of the press of other matters. The fifth non-user had ordered the units for review purposes with the possibility of using them for in-service training conducted by a state-supported regional education service center. He reported that his agency would use the units in the future if an appropriate request for training in the areas covered by the units is received from the school district.

Based on the limited number of telephone interviews with non-users, it appears that the primary reason that individuals who were familiar with the units did not use them for training purposes was that these individuals had not intended to use the units as training materials. Rather, they had ordered the units to add them to professional collections of resource materials. None of the non-users interviewed by telephone

indicated that they had had an unfavorable reaction to the units and had not used them for that reason.

Site Visits and User Reports

To obtain more detailed information on use of the units than was yielded by the questionnaires and telephone interviews, the evaluator visited two sites and obtained reports on use of the units from persons at three other sites. These five sites included an approximate total of 406 persons with whom the units had been used for training or for program planning. A brief description of use of the units at these sites is presented below. The three reports submitted on use of the units and a longer description for one of the two sites visited by the evaluator are contained in Exhibit E. Unit-related activities at the second site visited by the evaluator were not yet extensive enough to warrant writing of a longer report than the brief description presented below for this particular site.

Personnel in the San Mateo, California, City School District have used the procedures from the Analyzing Problems unit to identify and prioritize instructional problems in the district's five middle schools comprising Grades 6-8. The problems have now (December, 1974) been identified and prioritized, and middle-school personnel are presently engaged in activities designed to identify and implement optimal solutions. The project is coordinated by the district's Assistant Superintendent for Instruction, one of six administrators from the district who attended the August workshop, and is being conducted by a 25-person committee. Rather than using the exact procedures or the materials from the Analyzing Problems unit in the project, the project coordinator and other district personnel who attended the workshop developed a slightly modified

version of the procedures for use in their own district. The project coordinator was very enthusiastic about the success of the procedures as implemented in his district. The external evaluator who conducted a site visit to San Mateo, was also favorably impressed by the quantity and quality of the work that had been completed in the district since the August workshop.

At the second site visited by the external evaluator, a team of three participants in the August workshop had subsequently conducted a two-day workshop based on the units for all 26 school administrators in their district. The three workshop participants, each of whom was a building-level administrator, selected concepts and procedures from the units which they felt would be most useful in their district and used these concepts and procedures as the basic instructional content for the workshop. The senior administrator among the three trainers indicated to the evaluator that the trainers believed that reaction to the district workshop had been favorable. Two of the three trainers are also using the content of the Setting Goals unit as the basis for having faculty members develop course goals for each new course in their schools. A report for this site is not included in Exhibit E because, in the evaluator's opinion, unit-related activities at the site were not extensive enough at this time to warrant a description that is more detailed than the one presented above.

The Emporia, Kansas, State College Teacher Corps Project has involved use of the three FWL units by personnel from eight rural school districts and two large-city school districts in Kansas. Initially, a total of 35 superintendents, principals, teachers and community representatives

from six districts were trained with the three units during the 1972-73 school year. The procedures outlined in the Coordinator's Handbook were followed rather closely during this training. Participants from four of the six districts in the initial training subsequently used the units to train all of the teachers and many community representatives in their districts. In two of the districts, goals and goal indicators based on the FWL units have been developed for the schools and local committees are developing curriculum objectives related to the goals. In addition to the six districts involved in the initial training with the units during 1972-73, personnel from four other districts received training with the units during 1973-74 and are now using the units for training and program-development purposes in their individual districts. Rather than purchasing multiple sets of the units from FWL, the users from this project have reproduced copies of the materials from a single set. The major criticism of the units by users from this project has been the amount of time required by activities related to the hypothetical school districts in the units, and project personnel have substituted activities related to their local schools for those involving the hypothetical districts. In all, approximately 205 persons have participated in the training and program-development activities under this project. The general evaluation of the units by the project coordinator is favorable.

Under the administration of the Rhode Island Teacher Center, the FWL units have been used as the basis for five training courses conducted at local school district sites in Rhode Island. A total of 126 school administrators and teachers attended the training courses. Three hours of graduate credit were awarded for successful completion of a course.

Typically, all three units were used in their entirety in a training course. Following the training courses, participants from four of the five districts have used the content and procedures from one or more units as a basis for working on issues or problems in their own district. The evaluation of the training was favorable or very favorable at four of the five sites and unfavorable at the fifth site. The unfavorable evaluation was attributed by the Teacher Center representative to poor performance by the course instructor, rather than to the units themselves.

The Setting Goals unit was used by the Region VII Service Center in Kilgore, Texas, to train 24 school administrators and teachers in Marshall, Texas, Independent School District. The unit was administered during the 1973-74 school year to assist district personnel in the development of educational goals for the district. The training coordinator used most, but not all, of the activities from the unit with the participants. Concurrent with the training, participants applied the procedures from the unit to develop a set of prioritized goals and goal indicators for the Marshall School District. Personnel from the district are now engaged in developing performance objectives based on district goals. The Service Center Coordinator reported that the Setting Goals unit was very effective in the training course and program-development activities.

Summary

Information about use of the units was collected through mailing of a brief questionnaire to all participants in the August workshop and to all persons other than librarians on FWL's list of purchasers, holding telephone interviews with individuals who indicated on the questionnaires

that they had used one or more units with others, and conducting a site visit or obtaining a written report from five sites at which the units had been used rather extensively. Twelve of the 25 workshop participants (48%) and 10 of the 61 purchasers (16%) who returned completed questionnaires had used one or more units with others. The users interviewed by telephone represented 16 different sites and had used the units with approximately 542 school personnel and with 100 graduate students. Unit-related follow-up activities involving the writing of goals and goal indicators or the identification and prioritizing of problems were being conducted at nine of the 16 sites represented in the telephone interviews. Reactions to the units were favorable from 12 of the 16 sites, and none of the 16 users reported reactions that were primarily negative. Interviews with a small number of purchasers and workshop participants who had not used the units with others indicated that most of these non-users had ordered the units as resource materials for professional collections rather than for use as training materials.

4. EXTERNAL REVIEWS

Three professional educators with expertise in areas related to the training units were identified by ITC and approved by FWL as potential reviewers of the units. Arrangements for reviews of the units were subsequently made by ITC with each of these three individuals. The three reviewers were Dr. Keith Acheson, Assistant Chairman of the Department of Curriculum and Instruction at the University of Oregon; Dr. Norman Boyan, Dean of the School of Education at the University of California, Santa Barbara; and Dr. James Zaharis, Assistant Superintendent of the Mesa, Arizona, Public Schools. Dr. Acheson and Dean Boyan were selected as reviewers because each of them has done considerable substantive work in the areas covered by the training units. Dr. Zaharis was selected because his experience as one of the coordinators of the August workshop would provide him with an excellent basis for reviewing and evaluating the units and because, as an Assistant Superintendent of Schools, he represented a large class of potential users of the units. Dr. Zaharis wrote an initial review of the units prior to the workshop. After the workshop he wrote an additional set of comments to summarize his judgments about the units based on his experience in the workshop.

Each reviewer was instructed to thoroughly review the three units and the Coordinator's Handbook and to submit a report which addressed explicitly at least the following four topics:

1) need for the units
2) quality of the instruction
3) overall effectiveness of the units
4) likelihood of successful installation and use

A list of 15 evaluation "considerations" organized under the four topics

above was also sent to each reviewer for optional use in addressing the four topics.

A summary of the three reviews of the units is presented below under the headings of the four topics which the reviewers were instructed to address explicitly in their reports. The complete reports submitted by the reviewers are contained in Exhibit F. Also included in Exhibit F are a description of the directions to the reviewers and a list of the 15 evaluation considerations sent to the reviewers.

Need for the Units

The reviewers' comments on the need for the units related primarily to the existence and relative effectiveness of competing programs and to the importance of the skills taught in the FWL units. With regard to competing programs, the reviewers varied considerably in the number of programs they mentioned and in their comments on the effectiveness of the programs relative to the FWL units. One reviewer cited 15 separate publications in his discussion of competing programs, but many of these publications do not appear to be closely related in purpose or content to the FWL units. Competing programs which were mentioned (by title or developing agency) by at least two of the three reviewers are the SPECS program (School Planning, Evaluation and Communication System) developed by the Center for Advanced Study in Educational Administration at the University of Oregon, the Comprehensive Planning Instructional System developed by Research for Better Schools (RBS), and the Research Utilizing Problem Solving program of the Northwest Regional Educational Laboratory. Overall, the reviewers' comments indicate that there are a number of programs that can be considered to be competitors to the FWL package.

Among the reviews there was only one rather thorough contrast of the FWL units with another program--a fact that may be due to the difficulty of making direct comparisons of the overall value of programs which can be considered to be competitors but which nevertheless differ appreciably in purpose, objectives and content. This contrast involved the FWL units and the SPECS program. The reviewer concluded that the FWL package is preferable if the users wish to concentrate on instructional planning, but that SPECS is preferable if the users' major concerns include a "broader range of educational planning behaviors across an array of administrative and instructional positions." This reviewer also stated that there is more substance in the reading sections of the SPECS program than in the FWL materials. Another reviewer remarked that the FWL units do not have as much content depth as the competing RBS and American Institute for Research materials and that they are not as comprehensive as materials developed by Roger Kaufman and by the Northwest Regional Laboratory. However, this reviewer also stated that the Analyzing Problems unit describes a process that is badly needed by the public schools and that he knew of no other set of materials that attempts to set up such a thorough process of validating problems. No other direct comparisons of the FWL units with competing programs were made by the reviewers.

All three reviewers stated without reservation that the skills taught in the FWL package are very important for school administrators and/or professional educators involved in instructional program planning.

Quality of the Instruction

Reviewer comments on the quality of instruction related primarily to the appropriateness of the instructional activities, the appeal of the

materials and activities, and the appropriateness of the assessment activities. With regard to appropriateness of the instructional activities, two of the three reviewers made comments about the three units collectively which indicated that the reviewers felt the activities and exercises are generally appropriate. These same reviewers also remarked that the activities are good for promoting interaction among users. One of these two reviewers reported that the exercises and simulations are realistic and that the activities raised problems and issues that are widespread in their applicability. The third reviewer commented on the instruction on a unit-by-unit basis. He was most positive toward the Problem Solving unit and least positive toward Deriving Objectives. Two of the three reviewers wrote a number of specific criticisms of the units on a unit-by-unit or a module-by-module basis. Overall, the comments of one of the three reviewers regarding the appropriateness of instruction across the three units were quite positive, while the comments of the other two reviewers indicated only a fair or rather neutral appraisal of the instruction.

The comments on the appeal of the units were mixed. One reviewer thought that appeal of the instructional activities in Units 1 and 2 is on the high side, but he was disturbed by what he felt to be unnecessary efforts to be cute, joking and overfamiliar in Unit 3. A second reviewer found the sequence and type of activities to very appealing, but he thought that the materials are too bulky. His concern over bulk was shared by the third reviewer, who stated that the materials are wordy and not appealing cosmetically. Two of the three reviewers suggested packaging the reading portion of the units separately from the other materials.

The reviewers' comments on the appropriateness of the assessment were referenced primarily to the self tests in the units. One reviewer reported that that tests seem to be adequate and that they provide good practice for the user. Another reviewer indicated that the tests are adequate for a user to gain the feeling that he has mastered the material and that they also serve to stimulate discussion and provide varied learning activities. The third reviewer felt that a clear relationship is not established between the stated objectives of the modules and the self-test items. He was also quite concerned about the lack of depth in the suggested responses to the self tests. Only one reviewer commented on the issue of whether an individual or team that has used the materials could subsequently set appropriate goals, handle a real problem or derive objectives. The reviewer noted that an answer to this issue can only be conjectured.

Overall Effectiveness of the Units

In considering the overall effectiveness of the units, the reviewers generally directed their remarks to the amount that users are likely to learn, the major strengths and weaknesses of the units, and an overall evaluation of the units. The three reviewers differed considerably from one another in their judgments of the overall effectiveness of the units.

One reviewer was very positive in his assessment of the overall effectiveness of the units. He reported that the exercises and activities appear to ensure that conscientious participants will know how to perform the functions and processes covered in the units. He felt that the strengths of the materials are in the power of the ideas and processes

and in their format, learning activities and attractiveness. As weaknesses, he cited the existence of many competing products which cover similar or related ideas, and he noted that the bulk of the materials may deter some prospective users. He thought that the materials are well-planned and in tune with current thinking and enlightened practice.

A second reviewer was very concerned with the nature of what users will learn from the materials. He felt that the materials are much stronger in providing practice at working with colleagues as a team to determine instructional purposes than they are at providing a sound knowledge base for users. In this reviewer's judgment, the reading portions of the materials provide relatively little substantive knowledge that is useful for dealing with the difficult issues involved in the process of determining instructional purposes. He thought that the units may increase the proficiency of users in applying conventional wisdom and experience to the complex issues in determining instructional purposes--a result which, he noted, is desirable--but that they are much less likely to raise the level of substantive sophistication of users in determining purposes. In his judgment, the units are much stronger methodologically than conceptually. He also felt that the Coordinator's Handbook does not contain sufficient substantive content for the coordinator who lacks a strong substantive background.

Despite the second reviewer's concerns regarding conceptual content of the units, he reported that his overall evaluation of them is favorable. He sees the units as being valuable, not for use in an isolated or free-standing manner, but as the basis for a practicum type of experience accompanying a course which covers in depth the substantive content related

to the process of determining instructional purposes. He feels that the additional substantive content of such a course is needed to provide educators with important knowledge not contained in the units and that the units would be valuable in providing practice in the actual process of determining instructional purposes.

The third reviewer thought that the Setting Goals and Analyzing Problems units are strong with respect to their content and are likely to be effective with users who are highly motivated. His evaluation of the overall effectiveness of the Deriving Objectives unit is less positive than his evaluation of the other two units. He cited as major weaknesses the wordiness of the materials and the lack of variety of format in both the materials and the instructional activities. Because of these perceived weaknesses, he did not feel that the materials will be effective with users who lack a strong desire to acquire the knowledge and skills which they cover. He reported, however, that he does recommend use of the units by his own personnel.

Likelihood of Successful Installation and Use

The final general area which the reviewers were instructed to address was the likelihood of successful installation and use of the units. Remarks in this area were directed at the likelihood that administrators trained with the units will use the materials and skills in their work, the potential benefits of the units if they are used in school districts, the likelihood that a person trained with the materials can train others successfully, the cost of the units, and the amount of both instructor and user time required to use the units for training purposes. The

comments of the three reviewers on the probable use of the units dealt with the context and manner in which the units are likely to be used, rather than with the more speculative issue of whether they are likely to be widely used. None of the reviewers commented directly on this latter issue, which is a very important matter in making decisions regarding future dissemination of the units.

One reviewer thought that the units will most likely be used in in-service programs, extension courses, and summer courses for school administrators and teachers. He reported that they are also appropriate for use with faculty committees preparing to work on instructional planning problems and in graduate-level university courses in school administration and in curriculum development. In this reviewer's judgment, use of the units in a school district will undoubtedly result in desirable changes in the district's instructional program. He believed that a background of relevant practical knowledge and experiences, as well as teaching skill, is very important in order for a person trained with the units to use them successfully to train others. This reviewer cited $5.00 per unit as a desirable maximum cost for use of the units, which presently sell for $8.95 each, in in-service training and in university courses. He felt that the preparation time for an instructor to use the units will be minimal, once the instructor is familiar with them, and that the total training package can be completed entirely or in large part in the amount of class time normally available for a university course or for an extension course offered in a school district.

A second reviewer believed that the skills acquired from the FWL units are likely to be used in a selective manner by administrators who

are trained with the units, but not in the same order or to the extent envisioned by the unit developers. He indicated that, in his judgment, persons previously trained with the units would be likely to refer to them frequently for guidance and assistance. This reviewer felt that use of the units by administrators will result in improved skills in working with others, some increase in substantive knowledge, and a concomitant increase in capabilities for analyzing issues and problems in instructional planning. Like the reviewer cited immediately above, he believed that the prior experience and training of a person will have a very important effect on his success in using the units to train others. He did not think that training with the units will adequately equip a person who is not beyond the level of the materials to train others successfully. In this reviewer's opinion, cost will not be a determining factor in use of the units. He reported that the amount of instructor time required to use the units is not excessive and that the amount of time required of users is reasonable.

The third reviewer felt that the most appropriate uses of the units are in task force training, training programs for potential administrators, graduate-level university courses in educational administration, and general administrative in-service programs. He was not optimistic about reactions to the units in the latter type of program, however. In his judgment, the Setting Goals and Analyzing Problems units are more likely to be used by reviewers than the Deriving Objectives unit. He believed that more materials are generally available on instructional objectives than on the other topics and that the Deriving Objectives unit does not compare favorably to some of the available materials.

Summary

Reviews of the Determining Instructional Purposes units were obtained from three professional educators, two of whom have done considerable substantive work in the areas covered by the units and a third who had served as a coordinator at the August workshop and who represented a large class of potential users of the units. There was considerable variation in the nature of the comments of the three reviewers and in their reactions to the units. The reactions of one reviewer were consistently very favorable, except that he expressed some concern over the number of competing programs and the bulk of the units. The comments of the other two reviewers were less favorable, even though each of these reviewers reported that he would recommend use of the units for particular training purposes associated with his own work. One of the latter two reviewers generally reacted favorably to the Setting Goals and Analyzing Problems units and unfavorably toward Deriving Objectives. Overall, it seems most accurate to describe the reactions of these two reviewers toward the three units collectively as being neutral to slightly positive. All three reviewers reported that it is very important for school administrators to possess the types of skills taught in the units.

5. CONCLUSIONS

Two purposes for an external evaluation of the Determining Instructional Purposes training package were cited in the Request for Proposal issued by the Far West Laboratory. The primary purpose was to provide information and recommendations for use in making decisions regarding dissemination of the units. A secondary purpose was to provide information that is useful to school administrators in making decisions about purchase and use of the units.

The external evaluation of the units was conducted by Instructional Technology Consultants under a contract with the Far West Laboratory. Information related to the two purposes cited in the RFP was collected through use of several different procedures. An intensive four-day workshop, in which the units were used to train 25 school administrators and university faculty members, was held to obtain data on participant performence and attitudes following training with the units. Information on use of the units was collected through questionnaire surveys of the workshop participants and of individuals who had purchased the units from FWL, telephone interviews with persons who had used the units to train others, and a site visit or obtaining of a report from a key user at selected sites where the units had been used rather extensively. Additional evaluation information was collected in the form of written reviews of the units by three professional educators, two of whom had strong substantive qualifications in the areas covered by the units and a third who had served as a coordinator at the four-day workshop and who represented a large class of potential users.

On the basis of the information collected in the external evaluation, it appears to the evaluator that five generalizations can be made that should be useful in making decisions about dissemination or about purchase and use of the units. Each of the five generalizations is presented below with an accompanying description of the data and evaluator judgments which support the generalization.

1. Reactions of future users toward the units are likely to be favorable.

The data collected during the external evaluation indicated that attitudes toward the units are generally favorable. The attitudes of the workshop participants toward the units were consistently favorable, even though presentation of the units in intact form in an intensive four-day workshop undoubtedly was not a highly desirable method of using them with trainees. Persons who had used the units with others for training or program-development purposes also reported consistently favorable reactions to the units. The collective reactions of the three reviewers were less favorable overall than those of the workshop participants or persons who had used the units with others. However, one of the reviewers was very positive in his evaluation of the units, and each of the other two asserted that he would recommend their use for particular training purposes associated with his own work.

2. In most instances the units are not likely to be used as intended by the developers.

This statement applies both to the purpose for which the units are used and to the manner in which users proceed through the materials and activities. From the interviews with users of the units, it was evident that many school personnel want to use them directly for the purpose of applying the processes covered in the units to issues or conditions in

their own school districts, rather than for the purpose of being trained in how to perform the processes so that they subsequently will be able to apply them in the schools. They want, for example, to use the Setting Goals unit to set goals for their districts, not to learn the process of setting goals per se. This was a manner in which several of the users who were interviewed had used the materials, and in the evaluator's opinion, it is an appropriate use. Because the materials can be readily used as a guide during the process of setting goals (or during the other processes), it seems unlikely to the evaluator that previous training with the unit and practice of the process for a hypothetical school district will result in a considerable improvement in the goals that a planning team sets for its own district.

The manner in which users proceeded through a unit also typically varied from the procedures described in the Coordinator's Handbook. Only three of the 16 users interviewed by telephone reported that they had used one or more intact units and had closely followed the procedures from the Handbook. The most common practice was to use selected materials and activities from a unit rather than the entire unit. Another frequent modification was to substitute real issues or problems from a local school district for the content on the hypothetical school districts in the units.

3. The more general terminal outcome for each unit is the most important unit outcome and can be attained without mastering many of the instructional objectives for the unit.

One or two rather general outcomes, or goals, is implicit in the instructional objectives and activities for each unit. As noted in Chapter 2, for example, the general outcome or goal for the Setting Goals unit might be stated as follows:

Derive one or more goal statements for a school district and a set of prioritized indicators for each statement.

The general outcome for each unit involves development of a product that is the culmination of the various unit activities. Development of the product typically requires use of rules, definitions and criteria included in the unit and serving as the content for many of the instructional objectives of the unit. Many objectives simply require recall of content in the reading section of the module. Yet there is no need for the trainee or other user to commit this content to memory because he should be able to refer directly to it in the materials whenever necessary and because most of it is not generally useful in situations other than when he is working with the processes described in the units. Many other objectives involve the application of rules or criteria to make decisions that are very often a matter of personal interpretation (e.g., "Does the set of goal indicators include indicators for all important areas of behavior related to the goal?"). It is important to list this criterion for users to refer to and to define "all important areas of behavior," but there is little value in considerable explication or in practice related to this particular criterion because the explication and practice do not result in attainment of a skill that can consistently be applied to make correct decisions about useful examples. The "correct" answer is a matter of interpretation for all examples that are not written so that the answer is obvious.

In the evaluator's judgment, the general outcome for each unit, as contrasted with many of the instructional objectives, represents an outcome that is very important to many school personnel. The procedures

described in the units, particularly in Units 1 and 2, are appropriate methods for users to follow in order to attain the general outcomes. Users working toward this goal should be able to refer directly to the procedures in the units. Direct reference to the materials obviates the need for users to attain the instructional objectives that are based on recall, and there is little value in practicing examples related to objectives that require decisions based largely on personal judgment. Thus, it seems appropriate for users who want to do so to use only the content of a unit that directly involves procedures for attaining the general outcome of the unit and to by-pass the other reading material and the self-tests. Participation in the simulation activities would depend on whether the user was applying the process from the unit to his own school district or to the one of the hypothetical districts from the units.

The above generalization regarding the relative importance of the general terminal outcome of a unit, as contrasted with the instructional objectives, appears to conflict with statements by all three reviewers that it is very important for school administrators to possess the types of skills taught in the units--at least to the extent that the reviewers were referring to the skills represented by the instructional objectives. On the other hand, the generalization and the discussion of it are consonant with the strong belief expressed by one reviewer that the methodological content of the units is sounder than the conceptual content in the reading sections.

4. The present format and cost of the units are not conducive to sales.

The present cost of the units, approximately $9.00 per person for

each 10-18 hours of instruction, is high relative to the cost of most instructional materials. In cases where individual users must pay for their own materials, the relatively high cost may often affect use or sales of the units. This point is illustrated by the fact that multiple copies of the units were purchased for use at only one of the 16 sites represented by users interviewed in this study. The other individuals who used multiple copies of one or more units purchased a single copy and reproduced copies from it. Of course, it is particularly easy to reproduce the materials in their present format because they are loose leaf and 8½" by 11" in size. Furthermore, users are less likely to be willing to pay the full price for a unit when they use only selected materials from it, as they typically did in this study.

5. If the decision is made to publish and disseminate the units, the Laboratory should consider the desirability of deleting the Deriving Objectives unit.

Two of the three reviewers expressed rather strong concerns about the Deriving Objectives unit. One of these reviewers reacted quite favorably toward the first two units but consistently unfavorably toward Deriving Objectives, while the other reviewer was bothered considerably by what he judged to be ill-conceived attempts at humor in the unit. One reviewer also noted that more and better competing products are available on the topic of developing instructional objectives than in the areas covered by the other two units. The evaluator shares the perception that the Deriving Objectives unit is not as strong as the other two units.

The part of the Deriving Objectives unit that did consistently receive favorable comments from the reviewers was the programmed text.

If the decision is made to not publish and disseminate the unit, consideration could be given to marketing the programmed text as a separate item.

The Setting Goals and Analyzing Problems units together have enough content that they could serve as the basis for a three-credit-hour university course. It also seems that most school administrators are more likely to work at the tasks and the level of generality from these units than at the somewhat more detailed level required to derive objectives. The present combined cost of two units, while still on the high side for a university course, would not be out of line with book costs for many courses. Printing the reading content and self-tests separately from the team activities in each unit, as suggested by two reviewers, could provide more flexibility with respect to cost and use of the materials. However, it would also entail considerable editing for the team activities to have the potential of being used as a free-standing component.

The process of making a decision regarding the publishing and dissemination of instructional products involves a number of uncertainties. There is no set of well-developed rules for accurately judging the desirability of disseminating a product when a clearcut answer is not available to the question of whether the product should be disseminated. Hopefully, the information contained in this report will be of use to the Laboratory in arriving at a decision about publishing and dissemination of the Determining Instructional Purposes units.

APPENDIX A

TEST-DEVELOPMENT PROCEDURES AND SAMPLE UNIT TEST

Two test forms (Form A and Form B) were constructed as unit tests for each unit. The initial step in development of each unit test was to develop a pool of multiple-choice test items keyed to the instructional objectives of the unit as stated in the materials. Less than one item per objective was constructed for each unit primarily because of (1) concern over the amount of testing time that would be required during the workshop and (2) the fact that some stated objectives could be subsumed for assessment purposes under other more comprehensive objectives. The number of objectives and test items for each unit are shown below.

Unit	Objectives	Test Items
1. Setting Goals	17	12
2. Analyzing Problems	32	22
3. Deriving Objectives	13	12

Each test item was written to assess performance on one or more instructional objectives stated in the materials. The instructional content in a unit, as presented in the reading section of a module or occasionally in the suggested responses to self-test items, was used as the source for generating both the correct answer and plausible distractors for each item. Thus the "authority" for the correct answer to an item and for the distractors was always the instructional materials. If the item writer questioned the accuracy of the instructional content related to an item or thought for some other reason that the correct answer was potentially controversial, he noted the page number of the relevant content in the materials and wrote a rationale for the correct answer based on the instructional content in the materials.

The test items for each unit were assigned by the test developer to Forms A and B of the unit test according to a set of criteria (submitted to FWL in a separate document) designed to ensure equivalence of the two forms on a number of important test characteristics. The two test forms for Units 1 and 3 contained six items each. Forms A and B of Unit 2, which was longer than either of the other two units and which had many more objectives, consisted of 11 items each.

All items for the unit tests were initially written and assigned to test forms by Educational Evaluation Associates of Los Angeles under an agreement with ITC. The complete set of items was then reviewed by a staff member from FWL and a staff member from ITC. Many of the items were revised by ITC on the basis of the FWL and ITC reviews.

Following revision of the test items, the two forms of each of the three unit tests were administered to five graduate students at

Arizona State University. The purposes of this administration were to identify potential problems with the items and to obtain estimates of the relative difficulty of the two forms for each unit and of the amount of time required to complete each form. Minor revisions in the wording of several items were made on the basis of this administration.

Form A of the test for Unit 1, Setting Goals, is presented on Pages 52-54 as an example of a unit test. Copies of both test forms for each of the three units, with each item referenced to the module and objective for which it was written, are contained in Exhibit C.

SAMPLE UNIT TEST

Test Form A

SETTING GOALS

Name_____

DIRECTIONS: Circle the letter beside the correct answer for each item.

1. Listed below are three statements in the goal refinement process:

   #1. The student can find the correct sum of a column of whole numbers.

   #2. A well educated citizen will be able to manage personal financial affairs, such as loans, credit cards, and bank accounts.

   #3. The student will be able to perform all basic arithmetic operations.

   Which is the correct sequence of these statements in the goal refinement process, from educational philosophy to instructional objective?

   a. #1, #2, #3
   b. #2, #1, #3
   *c. #2, #3, #1
   d. #3, #1, #2
   e. #3, #2, #1

2. Which one of the following goals and objectives refers to <u>student outcomes</u> as opposed to other school concerns?

   a. The faculty should be involved in the development of curricula that meet student needs.

   b. The school counselor should meet with each junior at least once during the Spring to discuss career plans.

   c. The volunteer aides should be given a training session before being assigned to work with students.

   *d. Teachers should develop student interest in reading by letting students choose their own books.

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*The correct response for each item is marked with an asterisk.

3. Which one of the following statements would be the most appropriate goal indicator for the goal: "Practices Good Financial Habits"?

   a. Makes purchases wisely.

   b. Knows consumer rights and responsibilities.

   c. Does not make purchases without comparing prices.

   *d. Opens and maintains a checking account.

   e. Purchases lunch in school cafeteria rather than in nearby snack bar.

4. Listed below are the two goal indicators for the goal of "Responsible Citizenship."

   #1. Reads newspapers and magazines about the point of view and record of each candidate before voting for one of them.

   #2. Prior to election, listens to TV and radio programs regarding each political candidate.

   Only one item below is both a criterion for adequate coverage of a goal and is not violated by the above set of indicators. Which item is it?

   a. Relationship of goal indicators to goal.

   b. Inclusion of goal indicators for all important areas of behavior.

   *c. Level of generality of goal indicators.

   d. Overlap of goal indicators.

5. Once a set of goal indicators has been specified for a given goal, which one of the following factors is most important as a basis for determining the relative priority that should be placed on each indicator?

   a. Its relevance to important social issues and concerns.

   b. The time, money, and expertise needed to achieve it.

   c. The feasibility of actually measuring whether it is achieved.

   d. The professional judgment of consultants who have expertise in the goal area.

   *e. The opinions of school and community groups.

6. One opinion-gathering technique involves designing a questionnaire for submission to community representatives. Which one of the following is a probable advantage of this technique?

*a. Appropriate sampling procedures can be used with this method.

b. The number responding out of the total number sampled will probably be high.

c. It is relatively inexpensive in terms of staff and consultant time required.

d. It provides intensive feedback from each participant.

APPENDIX B
RESPONSES TO UNIT RATING FORMS

SETTING GOALS

DIRECTIONS: Please do not write your name on this form.

Complete Items 1-20 by circling a number for each item to indicate the extent to which you agree with the statement. Use the following key:

1 = strong agreement with statement
2 = agreement with statement
3 = neither agree nor disagree
4 = disagree with statement
5 = strongly disagree with statement

		1	2	3	4	5
1.	I know of other materials which cover similar content to the unit I just completed and which are more effective for training administrators.	*(0)	(3)	(2)	(5)	(0)
2.	The unit is potentially useful for training school administrators.	(3)	(6)	(0)	(1)	(0)
3.	It was difficult to determine what I was supposed to learn from the unit.	(0)	(1)	(3)	(6)	(0)
4.	The skills taught in the unit are important for school administrators to learn.	(3)	(7)	(0)	(0)	(0)
5.	The instructional activities in the unit provided useful information and practice on the skills being taught.	(7)	(6)	(1)	(0)	(0)
6.	The instructional activities were at about the right level of difficulty.	(2)	(5)	(3)	(0)	(0)
7.	The same skills could be learned in far less time than the unit presently takes.	(1)	(1)	(3)	(5)	(0)
8.	In general, I liked the instructional activities.	(0)	(8)	(1)	(1)	(0)
9.	A different form of practice and assessment would have been preferable to the self-tests in the unit.	(0)	(2)	(1)	(7)	(0)
10.	I learned a lot from the unit.	(0)	(7)	(1)	(1)	(1)
11.	I do not plan to use either the materials or the training I received in my school or district.	(0)	(1)	(2)	(5)	(2)
12.	Compared with other administrative training I have had, I would rate this unit very low.	(0)	(0)	(3)	(6)	(2)
13.	I would advise other who have responsibility for instructional program planning to attend a workshop based on this unit.	(1)	(6)	(2)	(1)	(0)

*Numbers in parentheses indicate the number of participants selecting each response choice.

(SETTING GOALS: continued)

		1	2	3	4	5
14.	The unit would be difficult to use for the purpose of training others.	(9)	(7)	(1)	(1)	(1)
15.	The unit is appropriate for use in a graduate course in educational administration.	(2)	(7)	(1)	(0)	(0)
16.	The unit is appropriate for use for training purposes in a school or district during the school year.	(0)	(3)	(4)	(3)	(0)
17.	I would need more training in order to serve as an instructor or coordinator with the unit.	(0)	(5)	(0)	(5)	(0)
18.	I would be willing to use the unit to train others in my school or district.	(0)	(6)	(1)	(3)	(0)
19.	The unit is too expensive for use in my district.	(0)	(1)	(4)	(5)	(0)
20.	The unit requires too much time to be used in a school or district during the school year.	(1)	(4)	(3)	(2)	(0)

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21. What specific things could be done to improve the unit and/or the way it was used in the workshop?

(Comments are contained in Exhibit D.)

We would appreciate any additional comments that you wish to make about this unit.

(Comments are contained in Exhibit D.)

DIRECTIONS: Please do not write your name on this form.

Complete Items 1-20 by circling a number for each item to indicate the extent to which you agree with the statement. Use the following key:

1 = strong agreement with statement
2 = agreement with statement
3 = neither agree nor disagree
4 = disagree with statement
5 = strongly disagree with statement

1.	I know of other materials which cover similar content to the unit I just completed and which are more effective for training administrators.	1 (2)	2 (2)	3 (6)	4 (7)	5 (2)
2.	The unit is potentially useful for training school administrators.	1 (6)	2 (9)	3 (4)	4 (0)	5 (0)
3.	It was difficult to determine what I was supposed to learn from the unit.	1 (2)	2 (2)	3 (1)	4 (11)	5 (3)
4.	The skills taught in the unit are important for school administrators to learn.	1 (7)	2 (11)	3 (0)	4 (0)	5 (1)
5.	The instructional activities in the unit provided useful information and practice on the skills being taught.	1 (3)	2 (12)	3 (3)	4 (1)	5 (0)
6.	The instructional activities were at about the right level of difficulty.	1 (2)	2 (6)	3 (5)	4 (5)	5 (1)
7.	The same skills could be learned in far less time than the unit presently takes.	1 (8)	2 (6)	3 (2)	4 (0)	5 (3)
8.	In general, I liked the instructional activities.	1 (2)	2 (6)	3 (7)	4 (4)	5 (0)
9.	A different form of practice and assessment would have been preferable to the self-tests in the unit.	1 (0)	2 (2)	3 (4)	4 (10)	5 (3)
10.	I learned a lot from the unit.	1 (2)	2 (8)	3 (4)	4 (4)	5 (0)
11.	I do not plan to use either the materials or the training I received in my school or district.	1 (2)	2 (2)	3 (1)	4 (10)	5 (4)
12.	Compared with other administrative training I have had, I would rate this unit very low.	1 (1)	2 (4)	3 (7)	4 (4)	5 (3)
13.	I would advise other who have responsibility for instructional program planning to attend a workshop based on this unit.	1 (3)	2 (7)	3 (4)	4 (4)	5 (1)

		1	2	3	4	5	*NR
14.	The unit would be difficult to use for the purpose of training others.	(3)	(6)	(0)	(2)	(2)	(1)
15.	The unit is appropriate for use in a graduate course in educational administration.	(3)	(21)	(3)	(2)	(0)	(1)
16.	The unit is appropriate for use for training purposes in a school or district during the school year.	(2)	(9)	(3)	(2)	(3)	(1)
17.	I would need more training in order to serve as an instructor or coordinator with the unit.	(2)	(7)	(1)	(6)	(3)	(1)
18.	I would be willing to use the unit to train others in my school or district.	(2)	(10)	(3)	(3)	(1)	(1)
19.	The unit is too expensive for use in my district.	(0)	(2)	(6)	(7)	(3)	(2)
20.	The unit requires too much time to be used in a school or district during the school year.	(4)	(9)	(3)	(3)	(0)	(1)

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21. What specific things could be done to improve the unit and/or the way it was used in the workshop?

(Comments are contained in Exhibit D.)

We would appreciate any additional comments that you wish to make about this unit.

(Comments are contained in Exhibit D.)

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*NR = No Response.

DIRECTIONS: Please do not write your name on this form.

Complete Items 1-20 by circling a number for each item to indicate the extent to which you agree with the statement. Use the following key:

1 = strong agreement with statement
2 = agreement with statement
3 = neither agree nor disagree
4 = disagree with statement
5 = strongly disagree with statement

		1	2	3	4	5
1.	I know of other materials which cover similar content to the unit I just completed and which are more effective for training administrators.	(0)	(5)	(4)	(8)	(3)
2.	The unit is potentially useful for training school administrators.	(6)	(14)	(0)	(0)	(0)
3.	It was difficult to determine what I was supposed to learn from the unit.	(0)	(2)	(3)	(13)	(2)
4.	The skills taught in the unit are important for school administrators to learn.	(8)	(11)	(0)	(0)	(0)
5.	The instructional activities in the unit provided useful information and practice on the skills being taught.	(4)	(14)	(2)	(0)	(0)
6.	The instructional activities were at about the right level of difficulty.	(2)	(13)	(1)	(4)	(0)
7.	The same skills could be learned in far less time than the unit presently takes.	(3)	(3)	(4)	(6)	(4)
8.	In general, I liked the instructional activities.	(2)	(12)	(3)	(2)	(1)
9.	A different form of practice and assessment would have been preferable to the self-tests in the unit.	(1)	(4)	(4)	(10)	(1)
10.	I learned a lot from the unit.	(5)	(8)	(4)	(2)	(1)
11.	I do not plan to use either the materials or the training I received in my school or district.	(0)	(2)	(5)	(8)	(5)
12.	Compared with other administrative training I have had, I would rate this unit very low.	(0)	(3)	(1)	(12)	(4)
13.	I would advise other who have responsibility for instructional program planning to attend a workshop based on this unit.	(5)	(8)	(3)	(3)	(1)

(DERIVING OBJECTIVES: continued)

		1	2	3	4	5	*NR
14.	The unit would be difficult to use for the purpose of training others.	(2)	(4)	(4)	(8)	(1)	(1)
15.	The unit is appropriate for use in a graduate course in educational administration.	(5)	(14)	(0)	(0)	(0)	(1)
16.	The unit is appropriate for use for training purposes in a school or district during the school year.	(2)	(11)	(3)	(3)	(0)	(1)
17.	I would need more training in order to serve as an instructor or coordinator with the unit.	(1)	(9)	(4)	(4)	(1)	(1)
18.	I would be willing to use the unit to train others in my school or district.	(1)	(11)	(3)	(3)	(1)	(1)
19.	The unit is too expensive for use in my district.	(0)	(2)	(7)	(5)	(4)	(2)
20.	The unit requires too much time to be used in a school or district during the school year.	(1)	(5)	(6)	(4)	(3)	(1)

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21. What specific things could be done to improve the unit and/or the way it was used in the workshop?

(Comments are contained in Exhibit D.)

We would appreciate any additional comments that you wish to make about this unit.

(Comments are contained in Exhibit D.)

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*NR = No Response.

APPENDIX C
USER RESPONSES TO TELEPHONE INTERVIEWS

The following six questions were asked each user contacted by telephone:

1. Which units did you use?
2. In what context did you use them.
3. With how many and what type of people did you use them?
4. In what way did you use the unit?
5. How would you evaluate the materials based on the participants' reactions and on yours?
6. Are the participants using the materials or training in any follow-up activities?

Responses of both workshop participants and purchasers to each question are summarized below.

RESPONSES OF WORKSHOP PARTICIPANTS

Job Description	Unit(s) Used	Context	Users	Manner of Use	Evaluation	Follow-up Activities
University Professors (2 participants)	Setting Goals	Project in school district	All 28 administrators in district	Working through selected materials and activities	Just beginning--too early to tell	School faculties will write goals and goal indicators for individual schools.
University Professor	Goals, Problems. Will also use Deriving Objectives	Graduate course in Ed. Admin.	37 graduate students	Worked through all activities, but used local problems and goals	Liked them. Good experience for students.	None
High School Principal	Problems, Objectives	Meetings with selected school staff	12 dept. chairmen and teachers in one school	Working through and discussing selected ideas	Use was too non-structured to evaluate units	No specific activities
High School and Jr. High Principals (3 participants)	All three	Two-day workshop	26 district administrators	Worked through selected materials and activities	Generally favorable	Establishing goals for new courses

Job Description	Unit(s) Used	Context	Users	Manner of Use	Evaluation	Follow-up Activities
*Asst. Supt., Curric. Consultant, and Principal (3 participants)	Analyzing Problems	District middle school committee	25 teachers and administrators on committee	Applying process from unit to own district	Very favorable	Committee is identifying and prioritizing middle-school problems. Will attempt to work out solutions.
Superintendent-Principal	Analyzing Problems	In-service meetings with school staff	13 elementary teachers in one school	Worked through selected materials and activities	Favorable	Deriving problem descriptions for school
District Director of Special Projects	Deriving Objectives	In-service meeting with selected district staff	8 administrators and 5 teachers	Worked through text on taxonomies	Liked it	None. Based directly on units per se

PURCHASER RESPONSES

Job Description	Unit(s) Used	Context	Users	Manner of Use	Evaluation	Follow-up Activities
University Professor	Goals, Objectives	Graduate course in Industrial Ed.	10 graduate students	Worked through selected materials and activities	Mixed	None
High School Principal	All three	University-conducted workshop for school district personnel	25 administrators and teachers	Worked through all materials, often as homework	Favorable, but did not like having to work through all activities	Deriving goals for high school based on Goal Setting unit.

*For each site marked with an asterisk, a report on use of the units is contained in Exhibit C.

Job Description	Unit(s) Used	Context	Users	Manner of Use	Evaluation	Follow-up Activities
District Administrator	Goal Setting	Two-day workshop plus continuing in-service work with total district faculty	30 teachers and administrators	Worked through selected materials and activities	Very favorable	Establishing course goals for district
District Administrator	Goals, Objectives	Meetings with selected district personnel	15 administrators and teachers	Discussions of concepts and processes	Generally favorable, but based on very limited use	None
University Professor	Objectives, parts of other two	Graduate course in curriculum	31 graduate students	Worked through selected materials and activities	Favorable	None
*Deputy Director Regional Educ. Service Center	Setting Goals	Workshop for school district personnel	24 teachers and administrators	Worked through nearly all unit materials and activities	Favorable	Derived set of goals and goal indicators for district
College Professor	All three	Both workshop and year-long in-service programs in 8 school districts	Approximately 205 administrators, teachers, community representatives and high school students	Used both intact units and locally modified version	Favorable	Derived goals and indicators in two districts; are deriving them in several other districts
*Director, State Teacher Center Project	All three	Training courses in local school districts	126 school personnel, mostly administrators, in five districts	Worked through entire units	Favorable	One or more units is being applied in follow-up activities in four of the five districts

Job Description	Unit(s) Used	Context	Users	Manner of Use	Evaluation	Follow-up Activities
University Professor	Analyzing Problems	Graduate courses in Ed. Admin.	22 graduate students	Discussion of concepts and processes	Use was too non-structured to evaluate units	None